

## Claims

1. A computer assisted method of providing a personalized  
5 lifestyle advice plan for a human subject comprising:

(i) providing a first dataset on a data processing means,  
said first dataset comprising information correlating the  
presence of individual alleles at genetic loci with a  
10 lifestyle risk factor, wherein at least one allele of each  
genetic locus is known to be associated with increased or  
decreased disease susceptibility;

(ii) providing a second dataset on a data processing means,  
15 said second dataset comprising information matching each said  
risk factor with at least one lifestyle recommendation;

(iii) inputting a third dataset identifying alleles at one or  
more of the genetic loci of said first dataset of said human  
20 subject;

(iv) determining the risk factors associated with said  
alleles of said human subject using said first dataset;

25 (v) determining at least one appropriate lifestyle  
recommendation based on each identified risk factor from step  
(iv) using said second dataset; and

(vi) generating a personalized lifestyle advice plan based on  
30 said lifestyle recommendations.

2. The method according to the method of claim 1 wherein the personalised lifestyle advice plan includes recommended minimum and/or maximum amounts of food subtypes.

5 3. The method according to claim 1 or claim 2 wherein the method comprises the step of delivering the report to the client.

10 4. The method according to claim 3 wherein the plan is delivered via the Internet and accessible via a unique identifier code.

15 5. The method according to claim 4 wherein the plan comprises hyperlinks to one or more Web pages.

6. The method according to claim 1 wherein said first dataset comprises information relating to two or more alleles of one or more genetic loci of genes selected from the group comprising:

- 20 (a) genes that encode enzymes responsible for detoxification of xenobiotics in Phase I metabolism;
- (b) genes that encode enzymes responsible for conjugation reactions in Phase II metabolism;
- 25 (c) genes that encode enzymes that help cells to combat oxidative stress;
- (d) genes associated with micronutrient deficiency; and
- (e) genes that encode enzymes responsible for metabolism of alcohol.
- (f) genes that encode enzymes involved in lipid and/or
- 30 cholesterol metabolism;
- (g) genes that encode enzymes involved in clotting;
- (h) genes that encode trypsin inhibitors;
- (i) genes that encode enzymes related to susceptibility to metal toxicity;

(j) genes which encode proteins required for normal cellular metabolism and growth;

(k) genes which encoded HLA Class 2 molecules.

5 7. The method according to claim 6 wherein said first dataset comprises information relating to two or more alleles of one or more genetic loci of genes selected from each member of the group comprising:

10 (a) genes that encode enzymes responsible for detoxification of xenobiotics in Phase I metabolism;

(b) genes that encode enzymes responsible for conjugation reactions in Phase II metabolism;

(c) genes that encode enzymes that help cells to combat oxidative stress;

15 (d) genes associated with micronutrient deficiency; and

(e) genes that encode enzymes responsible for metabolism of alcohol.

(f) genes that encode enzymes involved in lipid and/or cholesterol metabolism;

20 (g) genes that encode enzymes involved in clotting;

(h) genes that encode trypsin inhibitors;

(i) genes that encode enzymes related to susceptibility to metal toxicity;

25 (j) genes which encode proteins required for normal cellular metabolism and growth;

(k) genes which encoded HLA Class 2 molecules.

8. The method according to claim 6 wherein said first dataset comprises information relating to two or more alleles of one or more genetic loci of genes encoding an enzyme selected from the group comprising: cytochrome P450 monooxygenase, N-acetyltransferase 1, N-acetyltransferase 2, glutathione-S-transferase, manganese superoxide dismutase,

5,10-methylenetetrahydrofolatereductase and alcohol dehydrogenase 2.

9. The method according to claim 8 wherein said first dataset  
5 comprises information relating to two or more alleles of one or more genetic loci of each of the genes encoding cytochrome P450 monooxygenase, N-acetyltransferase 1, N-acetyltransferase 2, glutathione-S-transferase, manganese superoxide dismutase, 5,10-methylene-  
10 tetrahydrofolatereductase and alcohol dehydrogenase 2.

10. The method according to claim 1 including the step of determining the presence of individual alleles at one or more genetic loci of the DNA in a DNA sample of said human  
15 subject, and constructing the dataset used in step (iii) using results of said determination.

11. The method according to claim 10 wherein said presence of said individual alleles is determined by hybridisation  
20 with allele-specific oligonucleotides.

12. The method according to claim 11 wherein said allele specific oligonucleotides are selected from oligonucleotides each specific for one of the genes selected from the group  
25 comprising the CYP1A1 gene, the GST $\mu$  gene, the GST $\pi$  gene, the GST $\theta$  gene, the NAT1 gene, the NAT2 gene, the MnSOD gene, the MTHFR gene and the ALDH2 gene.